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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/829,781	04/10/2001	Tsung-Yuan Hsu	B-3916 617818-6	1039

7590

05/28/2003

Richard P. Berg, Esq.  
c/o LADAS & PARRY  
Suite 2100  
5670 Wilshire Boulevard  
Los Angeles, CA 90036-5679

EXAMINER

ZAHN, JEFFREY N

ART UNIT

PAPER NUMBER

2828

DATE MAILED: 05/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Applicati n No.</b>		<b>Applicant(s)</b>	
	09/829,781		HSU ET AL.	
	<b>Examiner</b>		<b>Art Unit</b>	
	Jeffrey N Zahn		2828	

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.


- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 27 December 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 11-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 19-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

  
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#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1-10 and 19-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yao (US 5917179).**

Regarding Claims 1, 6-10 and 19-30, and all dependent claims therefrom,

Yao '179 discloses a laser system with self-injection locking, the laser system including:

a single frequency laser (210) having a laser output for delivering laser light at a frequency  $W_0$  (col. 10, lines 1-63);

an optical port (inherent of 210) providing a portion of said laser output at said port;

a modulator (220) coupled to the output of the laser for generating two sidebands (abstract; see also col. 4, line 65- col. 6, line 55), the modulator being driven by a RF signal at a frequency  $W_m$  (col. 7, lines 44-53);

a filter coupled to an output of the modulator for suppressing or passing one of the two sidebands (col. 5, line 64- col. 6, line 8; see also col. 6, lines 12-55; this feature is incorporated into the modulator) and

an optical path coupling an output of the filter (output of 220) to the laser ( via 222/220) for injection locking. (col. 11, lines 20-55).

Yao '179 lacks a direct coupling of a discrete filter to the pump laser as claimed by the Applicant. However, this would have been obvious to one of ordinary skill in the art at the time of the invention since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. *Nervin v. Erlichman*, 168 USPQ 177, 179.

Regarding Claim 2, Yao '179 discloses the modulator (220) coupled to the laser signal via an optical coupler (270) and the feedback loop (270, 252, 520, 256, 222, 220) shown in Fig 5A.

Regarding Claim 3-5, Yao '179 discloses a MZ modulator (220; see also col. 7, lines 44-53) or any other modulator capable of RF modulation.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-10 and 19-30 have been considered but are moot in view of the new ground(s) of rejection.


### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Goodwin et al. (US 4769853), Nabors et al. (US 5027360), Huber (US 5200964), Huber (US 5295209), Logan, Jr. (US 5379309), Mells (US 5717708), Yao (US 5777778), and Yao (US 6178036).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey N Zahn whose telephone number is 703-305-3443. The examiner can normally be reached on M-F: 8:30-5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on 703-308-3098. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

  
Jeffrey Zahn  
May 16, 2003

  
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